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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/714,803	11/16/2000	Stephen J. Shellhammer	A33368-072797.0131	3975

21003 7590 07/28/2003

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EXAMINER
CRAVER, CHARLES R

ART UNIT	PAPER NUMBER
2682	5

DATE MAILED: 07/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.	Applicant(s)
09/714,803	Shellhammer et al
Examiner	**Art Unit**
Charles Craver	2682

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☐ Responsive to communication(s) filed on _____.

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-54* is/are pending in the application.

4a) Of the above, claim(s) *29-38 and 45-52* is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-25, 27, 28, 39-44, 53, and 54* is/are rejected.

7) ☒ Claim(s) *26* is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9) ☒ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on *Nov 16, 2000* is/are a) ☒ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____
4) ☐ Interview Summary (PTO-413) Paper No(s). _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Election/Restriction

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

   I. Claims 1-28, 39-44, 53 and 54, drawn to a handheld device with two modes, classified in class 455, subclass 552.1.

   II. Claims 29-35, drawn to a wireless Base Station, classified in class 455, subclass 561.

   III. Claims 45-52, drawn to a wireless system for controlling a handheld device with two modes, classified in class 455, subclass 454.

   IV. Claims 36-38, drawn to an ad-hoc master wireless device, classified in class 455, subclass 41.2.

2. The inventions are distinct, each from the other because of the following reasons: Inventions I, II and IV are related as subcombinations disclosed as usable together in a single combination, Invention III. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, inventions I, II and III have separate utility; Group I is operable in a Bluetooth environment and a WLAN environment, and thus does not need the Base Station of e.g. group II to operate. Group III is a master device which does not utilize the system of Groups II and IV, and as such is separately operable. See MPEP § 806.05(d).

3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

4. During a telephone conversation with James Maune on 7-23-03 a provisional election was made without traverse to prosecute the invention of Group I, claims 1-28, 39-44, 53 and 54. Affirmation of this election must be made by applicant in replying to this Office action. Claims 29-38 and 45-52 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(I).

Claim Objections

6. Claim 53 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (e) the invention was described in-
> (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or
> (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

8. Claims 1-7, 11-19, 21, 24, 25, 27 and 28 are rejected under 35 U.S.C. 102(e) as being anticipated by Vaisanen et al, US Pat 6,560,443.

Claims 1-4 and 24: Vaisanen discloses an apparatus for transmission coordination, comprising

a first radio transceiver (11) operating in accordance with a first communication protocol (IEEE 802.11(b)) in a 2.4 Ghz frequency band (col 6 lines 54-66, col 4 lines 43-62),

a base station operating in accordance with the first communication protocol (col 1 lines 40-61, col 5 lines 22-26),

a second radio transceiver (12) operating in accordance with a second communication protocol (Bluetooth) and using the same frequency band (col 6 lines 54-66), and

a coordinator (14) associated with the transceivers and thus the base station for switching the first and second radio transceivers, which Vaisanen states includes making them operational, i.e. activating/deactivating them (col 4 lines 43-62).

Claim 5: Vaisanen discloses that the first radio transceiver and the second radio transceiver are mounted together in a housing (10, col 6 lines 36-41).

Claim 6: Vaisanen discloses that housing is suitable for wearing on a belt (col 2 lines 18-21).

Claim 7: Vaisanen further discloses one or more devices associated with the second transceiver and operating in accordance with the second communication protocol (col 2 lines 23-66), which are read as slave devices given the Bluetooth protocol.

Claim 11: Vaisanen discloses that one of the one or more slave devices is a personal data managing device (col 2 lines 23-29).

Claims 12 and 13: The invention of Vaisanen would inherently activate the two transceivers for given time intervals; whether or not the time intervals are the same would depend on the situation in which the device was being operated. That is, the device of Vaisanen could be used in the BT mode for a given amount of time, and then switch to the IEEE mode for the same amount of time as the BT mode transmitted for in a certain situation.

Claims 14-17: Vaisanen discloses an apparatus for transmission coordination, comprising a first radio transceiver (11) operating in accordance with a first communication

protocol (IEEE 802.11(b)) in a 2.4 Ghz frequency band (col 6 lines 54-66, col 4 lines 43-62), and a base station operating in accordance with the first communication protocol (col 1 lines 40-61, col 5 lines 22-26),

a second radio transceiver (12) operating in accordance with a second communication protocol (Bluetooth) and using the same frequency band (col 6 lines 54-66), wherein the first radio transceiver and the second radio transceiver are mounted together in a housing (10, col 6 lines 36-41), and

a coordinator (14) associated with the housing for switching the first and second radio transceivers, which Vaisanen states includes making them operational, i.e. activating/deactivating them (col 4 lines 43-62).

Claims 18 and 19: please see the rejection of claims 12 and 13 above.

Claim 21: Vaisanen discloses an apparatus for transmission coordination, comprising

a first radio transceiver (11) operating in accordance with an IEEE 802.11 protocol and using a frequency band of about 2.4 Ghz (col 6 lines 54-66, col 4 lines 43-62) and having a first antenna system (ANT 1),

a base station operating in accordance with the IEEE 802.11 protocol (col 1 lines 40-61, col 5 lines 22-26), and

a second radio transceiver (12) operating in accordance with a Bluetooth protocol and using the frequency band of about 2.4 Ghz (col 6 lines 54-66) and having a second antenna system

(ANT 2). Further, the Bluetooth protocol inherently operates at a level of 0dBm, as evidenced by Clapper, US Pat 6,023,241(col 3 lines 36-60).

Claims 25, 27 and 28: A method for operating a portable data communications device using first and second wireless data communications protocol comprising

operating said data communications device in a first (reads power saving) mode of said first communication protocol (IEEE 802.11, col 6 lines 54-66, col 4 lines 43-62), whereby said device has active time periods for transmitting and receiving data communications signals using said first communications protocol and dormant time periods during which said device neither transmits nor receives data communications signals using said first protocol, but rather communicates via a second communications protocol (Bluetooth) with other devices (col 6 lines 54-66), and

controlling said operation (col 4 lines 43-62) according to said second data communications protocol to operate only during specific time periods. Since Vaisanen discloses that the second communication is via Bluetooth, such would inherently allow the device to operate as a master over various slave devices.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vaisanen as applied to claim 7 above, and further in view of Ravago et al, US Pat 6,529,584 in view of Ball et al, US Pat 5,610,386.

Claim 8: while disclosing applicant's invention of claim 7 above, Vaisanen fails to disclose that a slave device may comprise a scanner capable of being worn on a user's finger.

Ravago discloses an analogous art, that is, a Bluetooth enabled device (col 9 lines 14-16, col 2 line 59-col 3 line 20) wherein scanning means may be incorporated into the Bluetooth network (col 8 line 63-col 9 line 16).

Ball discloses that a scanner benefits from being able to be worn on a finger (col 2 lines 21-37).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use a scanner in the Bluetooth ad-hoc network of Vaisanen, as suggested by Ravago, as it would provide "a more convenient and readily available information delivery and extraction mechanism" (col 1 lines 26-31), and to further allow the scanner to be worn on a user's finger, as suggested by Ball, as it would provide safe use of the scanner.

Claim 9: Ravago discloses that the scanner is capable of transmitting bar code information to a transceiver (col 9 lines 9-16).

11. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vaisanen as applied to claim 7 above, and further in view of Halminen, US Pat 6,477,378.

While disclosing applicant's invention of claim 7 above, Vaisanen fails to disclose that one of the one or more slave devices is a printer.

Halminen discloses that Bluetooth ad-hoc networks may utilize a wireless connection from a PC to a printer (col 1 lines 14-27).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use a printer with the network of Vaisanen, as Vaisanen discloses that Bluetooth is useful for connecting computers and computer peripheral devices (col 2 lines 20-29).

12. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vaisanen in view of Wright et al, US Pat 6,047,165.

Vaisanen discloses an apparatus for transmission coordination, comprising

a first radio transceiver (11) operating in accordance with an IEEE 802.11 protocol and using a frequency band of about 2.4 Ghz (col 6 lines 54-66, col 4 lines 43-62) and having a first antenna system (ANT 1),

a base station operating in accordance with the IEEE 802.11 protocol (col 1 lines 40-61, col 5 lines 22-26), and

a second radio transceiver (12) operating in accordance with a Bluetooth protocol and using the frequency band of about 2.4 Ghz (col 6 lines 54-66) and having a second antenna system (ANT 2).

Vaisanen fails to disclose that the first antenna system and the second antenna system are of orthogonal polarization.

Wright discloses an analogous art, that is, a system for use in a wireless LAN utilizing a 2.4 Ghz spectrum (col 2 lines 30-64) wherein a transceiver benefits from the use of two antennas like that taught by Vaisanen wherein said transceiver further benefits from using orthogonally polarized antennas (col 5 lines 8-36).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use orthogonally polarized antennas in the invention of Vaisanen, as it would reduce interference, as suggested by Wright.

13. Claims 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vaisanen in view of Zyren, US Pat 6,377,608.

Claim 22: Vaisanen discloses an apparatus for transmission coordination, comprising

a first radio transceiver (11) operating in accordance with an IEEE 802.11 protocol and using a frequency band of about 2.4 Ghz (col 6 lines 54-66, col 4 lines 43-62),

a base station operating in accordance with the IEEE 802.11 protocol (col 1 lines 40-61, col 5 lines 22-26),

a second radio transceiver (12) operating in accordance with a Bluetooth protocol and using the frequency band of about 2.4 Ghz (col 6 lines 54-66).

Vaisanen fails to disclose that the IEEE 802.11 protocol transceiver uses one of two or more sub-bands and the Bluetooth protocol transceiver uses another of the two or more sub-bands in the spectrum.

Zyren discloses that Bluetooth and IEEE 802.11 systems which share the 2.4 Ghz spectrum may do so by using sub-bands of said spectrum (col 1 lines 21-55), and that the 802.11 system may use a different sub-band than the Bluetooth system in order to reduce interference (FIG 13, col 2 line 55-col 3 line 39).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Vaisanen by the teachings of Zyren, as Zyren states that using separate sub-bands of the 2.4 Ghz spectrum between the two standards lowers interference in the system as a whole.

Claim 23: Vaisanen discloses an apparatus for transmission coordination, comprising

a first radio transceiver (11) operating in accordance with an IEEE 802.11 protocol and using a frequency band of about 2.4 Ghz (col 6 lines 54-66, col 4 lines 43-62),

a base station operating in accordance with the IEEE 802.11 protocol (col 1 lines 40-61, col 5 lines 22-26),

a second radio transceiver (12) operating in accordance with a Bluetooth protocol and using the frequency band of about 2.4 Ghz (col 6 lines 54-66).

Vaisanen fails to disclose that the IEEE 802.11 protocol transceiver uses one of two or more sub-bands and the second transceiver may look ahead to determine if the sub bands are in use.

Zyren discloses that Bluetooth and IEEE 802.11 systems which share the 2.4 Ghz spectrum may do so by using sub-bands of said spectrum (col 1 lines 21-55), and that a Bluetooth device may look ahead to determine if the 802.11 system is using sub-bands than the Bluetooth system would nominally use, in order to find other bands to use to reduce interference (FIG 13, col 2 line 55-col 3 line 39).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Vaisanen by the teachings of Zyren, as Zyren states that using separate sub-bands of the 2.4 Ghz spectrum between the two standards lowers interference in the system as a whole.

14. Claims 39-44, 53 and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vaisanen et al.

Claim 39: Vaisanen discloses a method for providing communications in a wireless data communications system having a mobile unit (10) arranged to communicate with an access point

(AP) using a first data communications protocol (IEEE 802.11) and arranged to communicate with other devices using a second data communications protocol (Bluetooth), comprising

communicating data corresponding to said communication between said access point and said mobile unit using said first data communications protocol (col 6 lines 54-66, col 4 lines 43-62, col 1 lines 40-61, col 5 lines 22-26), and

communicating said data between said mobile unit and a portable device using said second data communication protocol, said communication being arranged at time intervals which avoid interference with said communicating using said first data communications protocol (col 6 lines 54-66, that is to say, the user may receive 802.11 data from the AP and later transfer said data to a slave device).

Vaisanen further discloses a cellular phone, which inherently converts voice signals to data corresponding to said voice signals and converting data signals corresponding to voice signal into voice signals.

Vaisanen fails to disclose that the communicated data is voice data; however, it was notoriously well known in the art at the time of the invention to use a network connection to transmit voice data, such as recorded data or VoIP. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the invention of Vaisanen to receive and transmit voice data, as the use of voice data over a network was so well known at the time. **Claim 40:** the use of compressed data would have been further obvious to lower bandwidth.

Claims 41-43 and 53: Vaisanen discloses that said first communications protocol is the IEEE 802.11 protocol, and said second communication protocol is Bluetooth (reads ACL).

Claim 44: please see the rejection of claim 40 above.

Claim 54: the use of CTS signals would have been further obvious, given their nature as a standard, in order to allow the system to operate in a well-known standard.

Allowable Subject Matter

15. Claim 26 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

16. The following is a statement of reasons for the indication of allowable subject matter:

Claim 26 teaches towards a method for using a portable data communications device with first and second wireless protocols, including a power saving mode in the first protocol including active and dormant time periods, said dormant time periods including communication via the second communications protocol with slave devices, *wherein further* controlling said device comprises providing a signal indicating that said active time period will commence following a predetermined time interval and terminating operation according to said second data communication protocol during said predetermined time interval.

Conclusion

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Cheng, Sugar, Awater, Jones, Shoobridge and Vij disclose transceivers for communicating via both Bluetooth and IEEE 802.11 in the 2.4 Ghz spectrum.

18. **Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314, (for formal communications intended for entry)

Or:

(703) 872-9314 (for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington VA, sixth floor (receptionist).

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles Craver whose telephone number is (703) 305-3965.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin, can be reached on (703) 305-4385.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-4700.

1-23-03
CHARLES CRAVER
PATENT EXAMINER

cc

C. Craver
July 23, 2003